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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,544	10/19/2001	Jeffrey A. Colborn	04813.0028.NPUS00	3328
7590 04/01/2004			EXAMINER	
ROBERT C. LAURENSEN HOWREY SIMON ARNOLD & WHITE, LLP 301 RAVENSWOOD AVENUE, BOX 34 MENLO PARK, CA 94025			MAPLES, JOHN S	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/066,544

Applicant(s)

COLBORN ET AL.

Examiner

John S. Maples

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10-19-2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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1. The drawings are objected to because there is no Figure 1A in the drawing figures as both pages 4 and 12 of the present specification set forth. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "cell cavities" found in line 7 of claim 1 does not have proper antecedent basis. Claims 2-4, dependent on claim 1, falls therewith.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Robison-US 5,558,947.

Reference is made to Figures 1 and 8 of the patent to Robison along with column 8, line 12 through column 9, line 54 and column 12, line 66 through column 13, line 45. In Figure 1, 20

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is the fuel storage unit where line 13 is the first flow path to the power source 12 and line 14 is the second flow path of the fuel back to the source 12. The third flow path is also line 14 which provides reaction products back to the source 12.

6. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by either Haltiner, Jr.-US 2001/0049039 (Haltiner) or Colborn-US 2003/0035984 (Colborn).

See the Abstract to Haltiner along with Figure 1 and paragraphs 0013-0019. The waste energy recovery 26 is the fuel storage unit where 33 is the first flow path and 34 is the second flow path. As for Robison, the second path 34 is also the third path because the same returns spent reaction products back to the fuel storage unit 26.

With regard to Colborn, see paragraphs 0016-0027. Also, Figure 1 shows the fuel storage unit 108, and a first flow line from 108 to the fuel cell 102 and a second flow line that travels from 102 back to 108. The third flow path goes from the fuel cell to reaction product storage unit 104.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Robison or Haltiner or Colborn, each taken in view of both Digne-US 4,362,789 (Digne) or Linden (Handbook).

The only claimed features not shown by the fuel cells of either Robison or Haltiner or Colborn are the demister and the voltage booster. Digne discloses a demister in the Abstract for use in a fuel cell. To have utilized the demister of Digne in any of the fuel cell systems of Robison or Haltiner or Colborn would have been obvious to one of ordinary skill in this art at the time the invention was made so that the exhaust could be separated and then reused and fed back into the fuel cell. Such would enhance the output of the fuel cell. The Linden disclosure shows a voltage doubler as part of the electronics used in a battery. To incorporate the voltage doubler in the teachings of either Robison or Haltiner or Colborn would have been obvious so that the greater output would be realized in each of these fuel cells. In any event, such a booster is a notoriously well known element used in electronics to increase the output of known electrical devices of not patentable moment.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday from 6:15-3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John S. Maples  
Primary Examiner  
Art Unit 1745

JSM/3-22-2004